

**REMARKS**

**I. Introduction**

By the present Amendment, claims 1, 2, and 21 have been amended, and claims 10-17 cancelled. Accordingly, claims 1-9 and 18-21 remain pending in the application. Claims 1 and 18 are independent.

**II. Office Action Summary**

In the Office Action of June 16, 2005, a complete reply was requested to the previously issued Restriction Requirement. Claim 21 was rejected under 35 U.S.C. §112, second paragraph as being indefinite. Claims 1-9, 11, and 18-20 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,578,816 issued to Lille. Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Lille. These rejections are respectfully traversed.

The Examiner's indication that claim 10 would be allowable, if rewritten in independent form to include all the limitations of the base claim and any intervening claims, is noted with appreciation.

**III. Rejections Under 35 USC §112**

Claim 21 was rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. In support of this rejection, the Office Action indicates that the term "electromotive force" in claim 21 is used to mean a self generating voltage in a motor when power is turned off. The Office Action further points out that the accepted term for this definition is back-EMF or counter electromotive force.

By the present Amendment, Applicant has made various changes to the claims to address all instances of indefiniteness raised in the Office Action.

Specifically, claim 21 has been amended to recite the term "counter electromotive force," as used in the specification. See page 18, lines 1-8.

It is therefore respectfully submitted that the presently pending claims are in full compliance with the requirements of 35 U.S.C. §112, second paragraph.

#### **IV. Rejections Under 35 USC §102**

Claims 1-9, 11, and 18-20 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lille. In support of this rejection, the Office Action alleges that Lille discloses all the features recited in the claimed invention.

As amended, however, Independent claim 1 defines a hard disk drive that comprises:

- a medium recording information;
- a head reading and writing of information with respect to said medium;
- a mechanism positioning said head on said medium;
- an enclosure housing these components therein;
- a hole formed in said enclosure passing air between the interior and the exterior of said enclosure;
- a solenoid operated valve capable of maintaining an open state or a closed state without electrical power being supplied thereto; and
- a controller controlling opening and closing of said hole in accordance with an operating condition of said medium by supplying electric power to said solenoid operated valve for switching between said open state and said closed state, wherein said open state and said closed state correspond to opening and closing of said hole, respectively.

According to independent claim 1, a solenoid operated valve is used to open and close the hole in the enclosure of the hard disk drive. Further, the solenoid operated valve, only requires power for switching between an open state and a closed state. The open and closed states also correspond to the hole being open or closed. Furthermore, the solenoid operated valve is capable of maintaining either state (open or closed) without electric power being supplied thereto. As indicated in

the Office Action with respect to claim 10, the applied references do not disclose a solenoid-operated valve for controlling airflow in a disk drive.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

During examination of a co-pending application, the Japanese Patent Office cited Japan Patent Publication 51-6707 ("JP 6707"), a copy of which is currently submitted together with an English translation. JP 6707 discloses a dustproof mechanism for magnetic disk drives. The device includes a brush mechanism, a door, and a solenoid. The brush mechanism opens the door to the drive's exhaust port when the drive begins spinning. The solenoid is energized to actuate (and retain) a pin that is used to block the path of the door and prevent the door from closing. The pin is retracted when power is removed from the solenoid. A spring mechanism is provided to return the door to a closed position after the pin has been retracted.

In contrast to the present invention, the mechanism disclosed in JP 6707 does not disclose a solenoid valve that is used to open/close the door and maintain the door in either the open or closed positions. Furthermore, the mechanism disclosed in JP 6707 requires continuous power to the solenoid in order to maintain the pin in a position that will keep the door open. If power is removed from the solenoid, the pin will be immediately retracted, thereby causing the door to close. Accordingly, JP 6707 does not disclose or suggest "a solenoid operated valve capable of maintaining an open state or a closed state without electrical power being supplied thereto," as recited in independent claim 1.

It is therefore respectfully submitted that independent claim 1 is allowable over JP 6707.

Claims 2-9 and 11 depend, either directly or indirectly, from independent claim 1 and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record. For example, claim 2 allows the controller to supply power generated from counter electromotive force when placing the solenoid operated valve in a closed state. This feature is not suggested disclosed or suggested by the art of record.

As amended, independent claim 18 defines a hard disk drive that comprises, in part:

means for controlling a solenoid operated valve to open and close said passing means in accordance with an operating condition of said recording means;

wherein said solenoid operated valve is capable of maintaining an open state or a closed state without electrical power being supplied thereto.

As previously discussed with respect to independent claim 1, such features are not shown or suggested by the art of record.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 19-21 depend from independent claim 18, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 18. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

#### **V. Rejections Under 35 USC §103**

Claim 21 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Lille. In support of this rejection, the Office Action indicates that the features of claim 21 would have been obvious to one of ordinary skill in the art.

At the outset, Applicant would like to point out that a *prima facie* case of obviousness must be made in order to support a rejection under 35 U.S.C. §103. According to the Federal Circuit and the M.P.E.P., a *prima facie* case of obviousness requires that three basic criteria be met. First, there must be some suggestion or motivation in the primary reference to modify, combine, or seek out the teachings of a secondary reference. Second, there must be a realistic expectation of success from combining the two references. Finally, the prior art references must clearly teach or suggest all the claim limitations. See M.P.E.P. §706.02(j). The Federal Circuit has consistently supported the requirements of the M.P.E.P. in stating, for example, that “[i]n proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art.” In re Fritch, 972 F.2d 1260, 23 USPQ 2d 1780 (Fed. Cir. 1992).

In the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), the court pointed out that the PTO has the burden under '103 to establish a *prima facie* case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an

obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

The Examiner alleges that Lille provides motivation to further supply power to the valve with the back-EMF power management of the drive. The Examiner indicates that one would have an interest in diverting "some of the back-EMF power of the spindle motor of the valve to maintain the air pressure in the retraction procedure and up lift the head when power is cut-off to the drive."

As indicated in the Office Action, the prior art of record fails to disclose certain features which have now been incorporated into independent claim 18, from which claim 21 depends. The additional features recited in claim 21 simply cannot be considered obvious in light of the current amendments. There is also no realistic expectation of success for arriving at the claimed invention, because Lille fails to provide features recited therein.

It is therefore respectfully submitted that claim 21 is allowable over the art of record.

**VI. Conclusion**

For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicant's undersigned attorney at the number indicated below.

**AUTHORIZATION**

Applicant requests any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 520.41206X00).

Respectfully submitted,  
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September 16, 2005